

METHODS AND APPARATUS FOR RENDERING AN
OPTICALLY ENCODED MEDIUM UNREADABLE

ABSTRACT OF THE DISCLOSURE

Methods and apparatus are provided for making an optically readable media unreadable. The method includes steps of (a) providing the media with an optically activated mechanism that degrades the reflectivity of a surface wherein information is encoded; (b) exposing the media to optical radiation for reading out the information; and, during the step of exposing, (c) initiating the operation of the optically activated mechanism. In this embodiment the step of initiating includes steps of (d) generating singlet oxygen in a layer disposed on the media; and (e) reacting the singlet oxygen with a metal-containing layer for oxidizing the surface of the metal-containing layer, thereby degrading the reflectivity of the surface. In a further aspect the optically activated mechanism causes a defocusing of a readout beam, thereby degrading reflection of the readout beam from a surface wherein information is encoded. In another embodiment the method deforms a surface of the layer resulting in readout beam aberration or in an inability to correctly stay on track. In another embodiment a portion of the surface is removed to the atmosphere, such as by evaporation or sublimation. In this embodiment a layer of the media is comprised of a volatile component and at least one other component. Removing at least some of volatile component by evaporation or sublimation causes an increase in at least one of photoabsorption or scattering or surface roughness with the remaining component, thereby rendering at least a portion of encoded information of the media unreadable, or affecting the tracking operation.